Investigating the Effect of Corporate Governance on Financial Reporting Quality and its Impact on Financial Constraints

Soliman, Walid Shehata Mohamed Kasim

Associate Professor, Accounting Department
Faculty of Commerce, Cairo University
Email: Walid.kasim@foc.cu.edu.eg

Rashed, Ahmed El Sayed

Lecturer, Financing Department
Faculty of Commerce, Cairo University
E-mail: ahmed_rashed@foc.cu.edu.eg

Abstract:

In the light of the interest in finding new opportunities for financing, many studies have been concerned with finding tools to control financial constraints to maximize financial resources, this paper is interested detecting in some financial constraints' determinants, which are corporate governance and financial reporting quality. As the main question of this paper is about the effect of corporate governance and financial reporting quality on financial constraints, using listed firms in the Egyptian stock market (EGX 100) for 133 non-financial firms from 2016 to 2021

including a sample of 798 firm-year observations. The paper found: (1) firms that have good corporate governance mechanisms enhance their financial reporting quality; (2) declining the quality of financial reports help management decreases financial constraints via gaining trust from related parties regarding the firm's performance ; (3) firms that have satisfied corporate governance mechanisms have a good chance to minimize their financial constraints; and (4) firms that have good corporate governance mechanisms contribute to enhance financial reporting quality thereby declining which reduces the financial constraints.

Keywords : Corporate governance, financial reporting quality, and financial constraints.

المستخلص:

في ضوء تزايد الاهتمام بالبحث عن توفير فرص جديدة للتمويل، فقد اهتمت العديد من الدراسات السابقة بالبحث عن أدوات يمكن من خلالها التحكم في القيود المالية المتاحة بغرض تعظيم الاستفادة من مصادر التمويل الممكنة. في هذا الصدد تهتم هذه الورقة البحثية باستكشاف واختبار بعض من المحددات التي يمكن من خلالها التحكم في القيود المالية؛ حيث ركزت هذه الدراسة الاهتمام على حوكمة الشركات وجودة التقارير المالية، حيث يتمثل التساؤل الأساسي في هذه الورقة البحثية في قياس مدى تأثير كل من حوكمة الشركات وجودة التقارير المالية على القيود المالية. باستخدام عينة من ١٣٣ منشأة غير مالية من سوق الأوراق المالية المصري، وبخاصة (EGX 100)، عن الفترة من ٢٠١٦ إلى ٢٠٢١. توصلت هذه الورقة البحثية لعدد من النتائج؛ لعل منها (١) المنشآت التي لديها أدوات حوكمة جيدة تكون لديها الفرصة

بصوره أكبر لتحسين جودة قوائما المالية. (٢) تعمل إدارات العديد من المنشآت على تقليل جودة القوائم المالية الخاصة بغرض توصيل صوره ذهنيه عن أدارة المنشآت بساعد في قليل القيود المالية الموضوعة عليها. (٣) تستطيع المنشأة التي تمتلك أدوات جيدة لحوكمة الشركات أن ترسل صوره ذهنية جيدة عن أداءها بالشكل الذي يساهم في تقليل القيود المالية الخاصة بها. (٤) المنشآت التي تمتلك أدوات جيدة لحوكمة الشركات تتمكن من تحسين جودة تقاريرها المالية بالشكل الذي يمكن معه تقليل القيود المالية التي توجهها

الكلمات المفتاحية: حوكمة الشركات، جودة التقارير المالية، القيود المالي.

Introduction:

The main objective of any firm is maximizing its value, this objective can be achieved by using some procedures, one of these procedures is minimizing its cost of capital. Firm can lower its cost of capital by managing or selecting the suitable capital structure. To determine capital structure, Firms have two options to fulfill financial needs; they are internal funds such as retained earnings, and external finance such as borrowings and issuance of new equity. Since the optimal capital structure that is having the lowest cost of capital. The internal fund have the priority as their cost lower than external finance cost.

Regarding external finance, Firms that face difficulties to get wanted external finance are often not able to fulfill their growth ambitions, since they are financially constrained. The presence of financial constraints has therefore clear effects on the overall economy. For this reason, identifying financial

constraints has been a crucial task of researchers to help policy assessment and prevent intervention. Financial Constraints (FCs) are defined as "firms are financially constrained if the cost or availability of external funds precludes the company from making an investment it would have chosen to make had internal funds been available. In other words, there is a wedge between internal funds (i.e. retained earnings) and external funds (i.e. debt and equity financing)" (Kaplan and Zingales, 1995). Increasing FCs prevents the firm from making an investment that it would have made. Since a firm was considered financially constrained when it had insufficient cash to undertake investment opportunities (Korajczyk and Levy ,2003). Moreover, a firm was considered financially unconstrained if it had unrestricted access to external financing (Almeida et al., 2004). Finally, Whited and Wu (2006) found that the most financially constrained firms invested 18% less than the least constrained ones.

Some studies were interested in factors that affected financial constraints such as dividends policy, firm size and age, credit rating, cash flow, and leverage (Almeida et al., 2004; White and Wu, 2006; Campello and Graham ,2013; and Azeem et al. ,2023). This paper contributes to investigate some other financial constraints factors or determinants, which are corporate governance and financial reporting quality. In addition, the study investigates the joint effect of these variables on financial constraints.

The rest of this paper is divided into five sections. Section 1 presents the research problem. Section 2 is interested in literature review and hypotheses development; section 3 discusses the research method. Section 4 reports and discusses the empirical results. Section 5 presents concluding remarks.

1. Research problem:

Regarding Financial constraints (FCs), some studies were interested in their determinants. This section concerns the role Corporate Governance (CG) mechanisms and financial reporting quality (FRQ) on FCs. Since this section presents the points of view related to the role of each of these determinants on financial constraints (FCs) as follows:

1.1 the effect of financial reporting quality on Financial Constraints:

There is a conflict of interest between shareholders, as principals, and management, as agents. Since management could use their knowledge about the firm's performance to get benefits. Shareholders need to have relevant information about firm performance which can be achieved through some tools; one of these tools is preparing a relevant financial reporting which is considered one of the most important elements of the accounting system that aims to provide all stakeholders, especially shareholders, with a reliable and relevant basis for their decision-making process. Recently, academic researchers concerned with

the ability of these reports to provide relevant information, it is called "Financial Reporting Quality (FRQ)" (Abdulrahman, 2020). It is a prime concern for all annual reports' users including current and potential investors, creditors, suppliers, tax authorities, governmental authorities, financial analysts and all the stakeholders in general.

Financial reporting quality is a wide concept and even if it is considered essential in accounting economics, still, there is no single definition agreed on among the researchers in the previous accounting literature. Some studies defined FRQ from many different perspectives because of its several various measures and the different purposes of the users of financial reporting in general. One of these perspectives was based on defining FRQ in terms of the qualitative characteristics of financial information. It defined FRQ as "high financial reporting quality occurred when a firm issued financial reports which possessed the required qualitative attributes mentioned by the International Financial Reporting Standards (IFRS)" (Abdulrahman, 2020). Other view suggested that FRQ referred to the quality of the earnings of the firm. It defined FRQ as "the extent to which the reported earnings reflect economic reality and in turn help financial users in assessing the financial performance of a firm" (Krishnan & Parsons ,2008). The last point of view defined FRQ in terms of two perspectives including financial users' needs and financial users' protection. Under the first perspective, FRQ is "the extent

to which the financial statements provided useful relevant financial information to the users to help them in their financial decisions" (Klai & Omri, 2011). Likewise, under the second perspective, argued that FRQ is "the degree to which the financial information is clear, competent, and sufficient for the needs of the users" (Johnson, 2002). Based on the pervious definitions, the FRQ can be defined as "the extent to which the financial reports considered all elements that would enhance the decision-making process of annual reports' users, in which these annual reports reflect the firm's economic performance, its operations, the financial position and cash flows of the firm".

Regarding the effect of FRQ on FCs, there are two different opinions; the first opinion confirmed that FRQ contributes decreasing FCs. Since Enhancing overall trust of investors in the firm's performance is attained by delivering financial reports that have high degree of quality and transparency. This action effectively declines Information Asymmetry (IA) between managers and other related parties who stand to gain potential economic benefits from this decline. Consequently, the improved trust in the information provided by the firm through high FRQ has led to raising the firm's ability to acquire more external finance (Carvalho and Kalatzis, 2018; Chiu, 2008).

The second opinion mentioned reducing FRQ may lead to decrease FCs. Since management, that needs get more funds for specific purpose, aims to manage Seasoned Equity Offerings

(SEOs) or Initial Public Offering (IPOs). This management manipulation could be happened by controlling discretionary accruals and FRQ before SEOs or IPOs to influence them by increasing stock prices and maximizing proceeds from them (Ching et al., 2006; Ball and Shivakumar 2008; He et al., 2010). In other words, the management may control FRQ and earnings to decrease FCs to get additional bonds before bonds offering years (Chou et al.,2009).

1.2 the effect of corporate Governance on Financial Constraints:

As mentioned before, there are some tools to reduce the management chances to use its position to get benefits, one of these tools is having good Corporate Governance (CG). There are many definitions of CG, some studies defined it as "the process that seeks to direct and control the affairs of a firm to protect the interest of all stakeholders in a balanced manner with the application of the principles of openness, integrity, and accountability" (Obeten et al., 2014).

There are some indicators to have a good CG, these indicators could be classified into three groups: ***The first group is ownership structure***; included some details such as ownership concentration, managerial ownership, and institutional ownership. ***The second group board of directors' characteristics;*** included some details such as number of

independent board members, number of board annual meetings, Chief Executive Officers (CEO) duality, and CEO compensation. ***The third group is auditing characteristics***; included some details such as number of audit committee members, number of audit committee annual meetings, audit committee members certifications, internal auditor certifications.

Regarding the effect of CG on FCs, there are two approaches. ***The first approach*** supports the direct association between them. Since good CG mechanisms confirm the firm's management's credibility, limit managerial behavior, and control management decisions. For example, having a high number of an independent board of directors, audit quality, and board size members decreases the IA between management and related parties (Verdi, 2006), reduces agency problems, and increases the trust of outsiders, which leads to reduce FCs, this means that external investors, either shareholders or creditors, have more information to take suitable decisions.

On the other hand, ***the second approach*** represents the indirect effect of CG on FCs through Financial Reporting Quality (FRQ) as a mediator. CG has played a crucial role in improving the efficiency of the capital market. Good CG mechanisms enhance financial reports' transparency and accuracy (Rahman and Bermer, 2016; Salin, 2017). Since all CG participants have been able to improve the FRQ. For example, (1) the preparation of financial reports under the oversight function of the board of

directors, particularly the audit committee; which indicates that the independence level of board and audit committee members of Chief Executive Officers (CEOs) increases FRQ (Cornett et al., 2008), (2) Moreover, firms with institutional shareholders have a better chance to monitor and mitigate the role of the managers' self-serving behavior in preparing financial reports which leads to increase FRQ (Chung et al. 2002), (3) the verification and assurance of the fairness of financial reports by external auditors that are represented in the audit working hours, audit fees and audit office size (big four) which means increasing audit quality rises FRQ (Caramanis and Lennox, 2008); and (4) the assessment of financial statement compliance with applicable laws and regulations by standard-separated entities. This means all CG participants have a role in maximizing FRQ.

2. Literature Review and Hypotheses development:

2.1 Corporate governance and financial Reporting Quality:

Many studies have investigated the effect of CG on FRQ. Since these studies took two trends; ***the first trend*** confirmed that all tested CG mechanisms participate to enhance FRQ, which could be represented by earnings management (EM), such as Kolsi and Grassa (2016) who used a sample of 26 banks from 2004 to 2012 to confirm the increase EM decreases FRQ. Moreover, they found that the majority of CG mechanisms, except institutional ownership, reduce EM. Kirana et al. (2020)

showed that the audit firm's reputation had a negative influence on EM for 163 firms in non-financial sectors listed on the Indonesia Stock Exchange from 2014 to 2018. Almasarwah et al. (2022) used a sample of Jordon listed firms from 2006 to 2019 to get evidence that there was a positive relationship between both Board meetings, Board insiders and Board size and real Earnings Management (REM). Boachie and Mensah (2022) used a sample of firms in Anglophone sub-Saharan African Countries to find evidence that the positive effect of earnings management on the financial performance of firms tends to be stronger in the presence of corporate governance quality. Islam et al. (2022) used a sample of Chinese listed firms from 2007 to 2020 to reveal that higher earnings quality achieves financial flexibility with the assistance of corporate governance which is essential to combat financial crises and smooth business operations successfully. Rezaee and Safarzadeh (2022) used a sample of 117 firms listed on Iran Stock Exchange from 2005 to 2019 to get evidence that CG has a positive association with earnings quality.

The second trend couldn't confirm that all tested CG mechanisms participate to enhance FRQ, such as Alareeni (2017) who used a sample of 20 listed firms in Bahrain Bourse from 2011 to 2015 to get mixed results about the effect of some CG mechanisms on EM, while board size had a negative effect, board independence and internal ownership had a positive effect, CEO duality did have any effect. Moreover, Uwuigbe et al. (2018)

used a sample of listed banks in Nigerian Stock Exchange from 2008 to 2015 to have a notice that CG mechanisms had an insignificant effect on the timeliness of financial reports, except for having foreign executives on the board had a positive effect. Ogbonnaya and Chidiebere (2021) found that CG mechanisms had a positive effect on FRQ, except for several board meetings which harmed FRQ. This result used a sample of listed pharmaceutical firms in the Nigerian Stock Exchange from 2006 to 2019.

Regarding the last presentation, it can be noticed that there is argument about the effect of CG mechanisms on FRQ, which is represented using EM, such as having foreign executive, board meetings, board size and CEO duality. So, the first hypothesis is formulated as follows:

H1: Corporate Governance (CG) has a significant effect on Financial Reporting Quality (FRQ).

2.2 Financial Reporting Quality and Financial Constraints:

Many studies have investigated the effect of FRQ on FCs. There are two types of studies; ***the first type of studies*** that confirmed a negative association between them, since increasing FRQ leads to decrease FCs, like Linck et al. (2013) found that financially constrained firms with good investment opportunities had significantly higher discretionary accruals before investment compared to their unconstrained. Moreover, discretionary

accruals could help constrained firms with valuable projects using a sample of firms from 1987 to 2009. Abernathy et al. (2014) found when Real Earnings Management (REM) was constrained by poor FCs, high levels of institutional ownership, and low industry market shares, managers were more likely to use classification shifting. Further, when Accruals Earnings Management (AEM) was constrained by low accounting system flexibility, managers were more likely to use classification shifting.

Moreover, Kurt (2016) found that the relationship between FCs and EM was robust to include controls such as growth opportunities, analyst followed, and chief executive officer equity holdings. Moreover, aggressive EM by constrained issuers was associated with lower SEO announcement returns but was not followed by negative abnormal returns in the long run. Tariverd and Keivanfar (2017) showed that FCs increased the opposite effect of FRQ on investment inefficiency for 112 listed firms in Tehran Stock Exchange during 2008-2013. Carvalho and Kaltzis (2018) indicated that accruals quality affected investment-cash flow sensitivities for firms in a situation of FCs for a sample of 958 non-financial firms from 1992 to 2009.

The second type of studies that confirmed a positive association between them. Since management may intend to lower FRQ to decrease FCs to get more loans or issue bonds, like Ching et al. (2006) who got evidence that SEO firms managed

their accruals prior to SEOs to increase stock prices and to maximize proceeds from SEOs for a sample of 777 observations from 1993 to 2000. Ball and Shivakumar (2008) who proved that firms provided higher accruals quality, and hence higher FRQ, before IPOs to influence IPOs for a sample of 393 UK IPO firms from 1992 to 1999. Chou et al. (2009) concluded that firms increased extensively discretionary accruals as an indicator of FRQ before the year of the bonds offering, then, began to reduce them in the years after these offerings to increase their offer proceeds for a sample of 312 US convertible bond offers during the period 1981 to 1998.

Moreover, Chang et al. (2010) confirmed that EM was higher in the year after the bond issuance than the year before issuing convertible bonds to affect the willingness of the bondholders to convert their bonds into stocks for a sample of 423 Taiwanese listed firms from 1990 to 2004. Ding et al. (2016) indicated that better earnings quality increases private firms' access to debt financing and lowers their cost of debt. Hussain and Akbar (2022) used a sample of 3250 non-financial Chinese listed firms from 2009 to 2018 to confirm that the dividend payments of non-financially constrained firms dampen managers' opportunistic behavior toward EM practices and vice versa. Van and Hung (2022) used a sample of Vietnam Firms from 2008 to 2019 with 5263 annual observations to found that short-term and long-term debt positively impacted EM.

In contrast, Hassani and Akbari (2016) introduced a unique result when they confirmed the insignificant relationship between FCs and EM for 260 firms listed in Tehran Stock Exchange over the period 2008-2014.

Based on these studies, researchers noticed that there is no agreement about the effect of FRQ on FCs, so the second hypothesis is:

H_2: Financial Reporting Quality (FRQ) has a significant association with financial constraints (FCs).

2.3 Corporate governance and Financial Constraints:

Many studies have investigated the effect of CG on FCs; like Filatotchev and Toms (2006) who suggested that FCs became less serious to the extent that there was a functioning market for firm control. Ginglinger and Saddour (2007) found that firms with strong shareholder rights held more cash due to the positive correlation between CG quality and FCs. However, they showed that CG quality had no impact on cash holdings by financially unconstrained firms for a sample of non-financial firms listed on Euronext Paris from 1998 to 2002. Kalatzis et al. (2010) got evidence that firms with a high concentration of ownership and control were more likely to be financially constrained for a sample of Brazilian publicly traded firms from 1997 - 2002. Chu et al. (2016) found that non-family-controlled firms relied on the external debt market while family-controlled

firms utilized internal cash and reduced their dependence on the debt market which confirmed FCs in family firms. However, the presence of CEO duality and independent directors appeared to be ineffective in governing family firms in issuing finances for 157 firms in Malaysia.

Lee and Park (2016) found that board governance mitigated agency concerns in cash holdings more significantly for financially less-constrained firms. Consistently, financially less-constrained firms increase the level of board governance and adopt more board governance standards. They got evidence that FCs interrelate with the effectiveness of board governance for a sample of firms from 2001-2009. Zhao and More (2016) confirmed the influence of governance at different levels on the value of cash holdings of SOEs in China. Results of the analysis were expected to aid in understanding how CG and FCs affect the value of cash holdings for a sample of A- share Firms on the Shanghai and Shenzhen Stock Exchange from 2002- 2009. Bayar et al. (2018) suggested that tax avoidance was a less useful source of financing for constrained firms when they were plagued with potential agency problems and opaque information environments for a sample of 35,000 firm-year observations from 1990- 2015. Farooq and Noor (2020) got evidence that all CG mechanisms, that were mentioned in that study, had a significant association with FCs for the Pakistan Stock Exchange (PSX) during the period 2010-2018.

Farooq et al. (2022) used a sample of 215 non-financial Pakistan Stock Exchange (PSX) listed firms between 2010 and 2018 to provide business managers and investors with more information regarding the relationship between CG quality and the FCs. Furthermore, improving the CG quality practices improves capital market efficiency and lowers the likelihood of FCs. Azeem et al. (2023) used a sample of PSX listed firms also, they found as the quality of firm-level governance improves, shareholders are provided with the legal strength to ultimately force firm managers to pay dividends.

Based on the last studies that are interested in the relationship between CG mechanisms and FCs provide evidence that there is a direct effect. However, to the best of the researcher's knowledge, no study tested the influence of FRQ as a mediator. Therefore, the third hypothesis is:

H_3: Corporate Governance (CG) has a significant association with Financial Constraints (FCs) through Financial Reporting Quality (FRQ), as a mediator.

3. Research Method:

3.1 The Model:

Describing the mediating role of FRQ on the association between CG mechanisms and FCs is presented in the following figure:

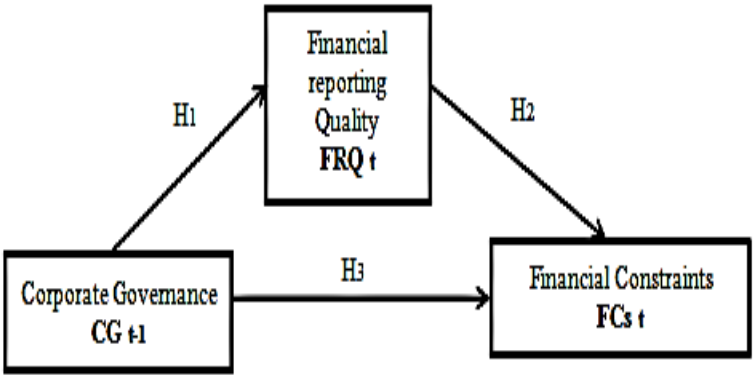

Figure 1: Research Model to test hypotheses.

3.2 Research variables:

The following table shows the main research variables and their proxies.

Table 1: Variables measurement

Variables	Proxies			
	Name	Abb.	Measure	References
Dependent Variable Corporate Governance (GC)	**Ownership Concentration**	**OC**	**OC** = ownership for owners who have more than 5% ÷ equity's book value.	Ginglinger (2007, Kalatis et al. (2010), Gauselmann and Noth (2014); Farooq and Noor (2020)
	Governmental Ownership	**GO**	**GO** = Governmental ownership ÷ equity's book value.	Zhao and More (2016)
	Managerial Ownership	**MO**	**MO** = Managerial ownership ÷ equity's book value.	Farooq and Noor (2020)
	Number of Board Members	**B.MEM**	**B.MEM** = Natural logarithm of board members.	Alareeni (2017); Uwuigbdi et al. (2018)
	Number of Board Meetings	**B.MEE**	**B.MEE** = Natural logarithm of board meetings.	Alareeni (2017) ; Uwuigbdi et al. (2018)

	The female ratio on Board	**Female**	**Female** = No. of females in board ÷ No. of board members.	Ogbonnaya and Chidiebere (2021)
	CEO Duality	**CEO Duality**	**Dummy variable**, It gets a value of one (1) if the chairman of the board is the CEO, otherwise, it gets zero (0).	Chu et al. (2016)
	The non-executive ratio in Board	**Non-EXE**	**Non-EXE** = No. of Non-executive members on board ÷ No. of board members.	Chu et al. (2016), Kolsi and Grassa (2016) ;Uwuigbdi et al. (2018)
Independent Variable Financial Reporting Quality (FRQ)	**Miller Model**	**FRQ_ Miller**	FRQ is computed by the equation: **FRQ t = (ΔWC/CFO) t – (ΔWC/CFO) t-1** **(Note: increase in Miller value means financial reports quality is low, and vice verses)**	Miller (2009)
Mediator Variable Financial Constraints (FCs)	**Altman Model**	**Z-score**	**Z-score** = 1.2 (NET.INC/TA) + 1.4 (WC/TA) + 3.3 (Rev./TA) + 0.6 (MARKET/TA) + (RE/TA)	Altman
	Kaplan and Zingales Model	**KZ**	**KZ** = -1.002 (CF/TA) - 39.368 (DIV/TA) - 1.315 (CA/TA) + 3.129 LEV+ 0.283 Tobin's Q.	Kaplan and Zingales (1997)
Control Variables	**Firm Size**	**FS**	Natural logarithm (LN) of total assets.	
	Return on Assets	**ROA**	The ratio of Net income before interest and tax to total assets	
	Leverage	**LEV**	The ratio of total liabilities to total assets	
	Firm Age	**FG**	Natural logarithm (LN) of firm age.	

Note: Principal Component Analysis (PCA) was used to represent one reliable indicator of CG using its factors, which are OC, GO, MO, B.MEM, B.MEE, Female, CEO duality and Non.EXE.

3.3 Data Description:

Published annual reports in the Thomson Reuters Eiko Database were used. The sample covers the period from 2016 to

2021. The researcher excluded data until 2013 due to 2011 and 2013 Egyptian revaluations and the subsequent events from 2014 to 2015, which affected Egyptian stock market stability. Moreover, researchers excluded all banks and financial institutions because this sector is affected by additional rules prepared by the Central bank of Egypt which could have a significant effect on research results.

3.4 Descriptive statistics:

Table (2) introduces descriptive statistics for all study variables as follows:

Table 2: Descriptive Statistics of the variables

Var.	N	Mean	STDEV	Min.	Max.	p1	p99	Skew.	Kurt.
FC_KZ	798	1.162	1.368	-1.398	3.09	-1.398	3.090	-0.461	2.246
FC_Z-score	798	9.864	9.099	2.070	27.097	2.070	27.097	0.950	2.310
FRQ _Miller	798	1.472	1.373	0.208	3.812	0.208	3.812	0.829	2.063
CG	798	0.029	1.003	-1.358	1.491	-1.358	1.491	-0.078	1.711
FS	798	5.948	0.739	4.350	7.730	4.520	7.630	0.085	2.405
ROA	798	0.101	0.074	0.010	0.250	0.010	0.250	0.809	2.464
LEV	798	0.225	0.190	0.020	0.620	0.020	0.620	0.833	2.447
FG	798	3.365	0.497	2.565	4.111	2.565	4.111	-0.002	1.792

Source: Data Processed 2022.

Table 2 indicates that Skewness ranges are between -3 and +3, and Kutrosis ranges are between -10 and +10 for all variables, which means the deviations are normal and do not have any significant effect on the following results.

3.5 Data Analysis:

The structural Equation Modeling (SEM) method based on Partial Least Square (PLS) is used to process data based on running "STATA" software. To test model and proxies' validity researcher presented the following tests:

3.5.1 Diagnostic Statistics:

Diagnostic tests are conducted on all data to assure that the results will not be biased; these tests are shown in the following table:

Table 3: Diagnostic tests

Diagnostics Tests	Coef.	Prob.	Accepted level	Results
Breusch-Pagan (Cook-Weisberg Test)	6.4700	0.0110	Prob < 0.05	The heteroscedasticity is present in the regression model.
Ramsey RESET Test	4.7800	0.0026	Prob < 0.05	The functional form is correct, and the model does not suffer from omitted variables.
Unit-root Test	-2.8020	0.0000	Prob < 0.05	All variables in the current research have stationary time series and the results can be generalized to the future.

Source: Data Processed 2022

Table 3 indicates that the current research variables have a stationary time series; thus the current research results can be generalized to future periods. Additionally, the variables have a long-term equilibrium relationship except for firm size. Finally, there is heteroskedasticity and no omitted variable among the variables, which indicates that the results will not be biased, and research model is valid.

3.5.2 Correlation:

Before testing hypotheses, the fitness and adequacy of the model are determined by measuring the normal distribution of the residuals and the existence of no correlation between the residuals; then the stability of the residual variance is studied by preparing the following table.

Table 4: Variables correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) FC_KZ	1.000							
(2) FC_Z score	**0.106*** (0.003)**	1.000						
(3) FRQ _Miller	**0.171*** (0.000)**	**0.204*** (0.000)**	1.000					
(4) CG	**-0.200*** (0.000)**	**-0.096** (0.007)**	**-0.070** (0.049)**	1.000				
(5) FS	**-0.138*** (0.000)**	**-0.065* (0.065)**	**-0.075** (0.035)**	**-0.063* (0.075)**	1.000			
(6) ROA	**-0.177*** (0.000)**	**-0.144*** (0.000)**	**-0.073** (0.039)**	0.039 (0.275)	**0.135* (0.000)**	1.000		
(7) LEV	0.043 (0.223)	**-0.112** (0.002)**	**-0.116*** (0.001)**	-0.028 (0.434)	-0.037 (0.302)	**0.133*** (0.000)**	1.000	
(8) FG	**0.129* (0.000)**	**0.092** (0.009)**	0.016 (0.660)	**-0.073* (0.039)**	**-0.110** (0.002)**	**-0.122*** (0.001)**	-0.049 (0.163)	1.000

****** p<0.01, ** p<0.05, * p<0.1***

Source: Data Processed 2022

Table 4 provides a correlation matrix of all variables comprising Pearson correlation coefficient among all variables with a concentration on the main variables of interest since the correlation is between 0.204, and -0.200 which indicates that all

variables are not suffering from multicollinearity problems, which will be confirmed in the following section.

3.5.3 The direct relation between main variables:

In this part the direct associations between the main variables are tested as follows:

3.5.3.1 The direct relation between Corporate Governance and Financial reporting quality:

The results of testing the direct effect of CG on FRQ indicated as follows:

Table 5. Regression results of a direct effect on FCs

$FRQ = \sigma + \beta1\ CG + \beta2\ FS + \beta3\ ROA + \beta4\ LEV + \beta5\ FG$

Independent Variables	**GLS**	
	OLS	**GMM**
CG	**0.138****	**0.123***
FS	-0.101	**-0.178***
ROA	-0.7435	-2.088
LEV	**-0.711****	**-3.985****
FG	-0.077	-0.623
Cons	2.047	**5.568****
N	798	798
Adjusted R^2	0.111	
AR (1)		0.000
AR (2)		0.561
Sargan test		0.190
Hansen test		0.440

****** p<0.01, ** p<0.05, * p<0.1***

Source: Data Processed 2022

Based on Table 5, the association between CG and FRQ, since path coefficients are 0.138 for OLS and 0.123 for GMM, which means that there is a positive and significant association between CG and FRQ at a significant level of 5% for OLS and 10% for GMM. So, the **first hypothesis (H_1) is accepted**. The result supports Kolsi and Grassa (2016), Kirana et al. (2020), Almasarwah et al. (2022), Boachie and Mensah (2022) and Islam et al. (2022). However, this result does not consistent with Alareeni (2017), Uwuigbe et al. (2018) and Ogbonnaya and Chidiebere (2021).

3.5.3.2 The direct effect of both Corporate Governance and Financial reporting quality on financial constraints:

The results of testing the direct effect of CG and FRQ_ Miller on FCs indicated as follows:

Table 6. Regression results of a direct effect on FC

$FCs = \sigma + \beta1\ CG + \beta2\ FRQ + \beta3\ FS + \beta4\ ROA + \beta5\ LEV + \beta6\ FG$

Independent Variables	GLS		GMM	
	FC_KZ	FC_Z-score	FC_KZ	FC_Z-score
FRQ	0.147***	1.178***	0.113**	0.881***
CG	-0.249***	-0.721*	-0.916***	-0.899*
FS	-0.197**	-0.479	-0.179**	-0.839
ROA	-2.656***	-12.843**	-1.616***	-8.246
LEV	0.538*	-3.710*	0.001	-4.844**
FG	0.241**	1.151	0.059	-5.836**
Cons	1.460**	9.257*	2.101**	33.564***
N	798	798	798	798
Adjusted R^2	0.110	0.070		
AR (1)			0.000	0.000
AR (2)			0.795	0.416
Sargan test			0.178	0.175
Hansen test			0.568	0.859

****** p<0.01, ** p<0.05, * p<0.1***

Source: Data Processed 2022

The results of table 6 are presented as follows:

1) The association between FRQ and FCs, since path coefficients are 0.147, 1.178 for GLS and -0.113, 0.881 for GMM, means that there is a positive and significant association between FRQ and FCs, at a significant level of 1%. So, the **second hypothesis (H_2) is accepted**. The result supports Ching et al. (2006), Ball and Skivakumar (2008), Chou et al. (2009), Chang et al. (2010), Ding et al. (2016), Hassan and Akbar (2022), and Van and Hung (2022)

2) However, this result is not consistent with Linck et al. (2013), Abernathy et al. (2014), Kurt (2016), Tariverd and Keivanfar (2017) and Carvalho and Kaltzis (2018).

3) The association between CG and FCs, since path coefficients are -0.249, -0.721 for GLS and -0.916, -0.899 for GMM, which means that there is a negative and significant association between CG and FCs, at a significant level of 1% for GLS and 10% for GMM. The result supports Filatotchev and Toms (2006), Ginglinger and Saddour (2007), Kalatzis et al. (2010), Gauselmann, Chu et al. (2016), Lee and Park (2016), Zhao and More (2016), Bayar et al. (2018), and Farooq and Noor (2020), Farooq (2022), and Azeem et al. (2023).

3.5.4 Testing the indirect effect on Financial Constraints:

The data processing was done using Structural Equation Modeling (SEM) method based on Partial Least Square (PLS) since this data was processed by "STATA" software.

Table 7: Model goodness of fit tests

Fit statistic	Fit Indices	Value		Accepted level	Decision
		FC_KZ	FC_Z-score		
Likelihood ratio	Chi2_bs (3)	57.446	43.353		
	P-value	0.000	0.000	P-Value < 0.05	The model fits perfectly.
Baseline comparison	Comparative fit index (CFI)	0.92	0.95	CFI ≥ 0.90	The models improve the fit.
	Tucker-Lewis index (TLI)	0.94	0.90	TLI ≥ 0.90	
Population error	Root Mean Squared Error of approximation (RMSE)	0.05	0.06	RMSEA < 0.08	The results of the model are easy to interpret

Source: Data Processed 2022

Table 7 indicates that both research models are fit and easy to interpret. This leads to testing the indirect effect of CG on FCs through FRQ as a mediator, the results are indicated in the following table:

Table 8: Path Coefficient

		FC_KZ				FC_Z Score			
	Path	Coef.	St. Err.	Z	P>z	Coef.	St. Err.	Z	P>z
	Direct effects								
1	CG -> FRQ	0.095*	0.048	1.970	0.049	0.870***	0.320	2.720	0.006
2	FRQ -> FCs	0.158***	0.034	4.461	0.000	1.313***	0.229	5.720	0.000
3	CG -> FCs	-0.258***	0.047	-5.510	0.007	-0.095**	0.048	-1.970	0.049
	Indirect effects								
4	CG -> FRQ -> FCs	-0.015*	0.008	-1.810	0.070	-0.125*	0.067	-1.860	0.062

Source: Data Processed 2022

The results of table 8 are presented as follows:

1) The association between CG and FRQ_ Jones is obtained from line 1, path coefficients are 0.095 for the FC_KZ model, and 0.870 for the FC_Z Score model, this means that there is a positive and significant association between CG and FRQ, this result confirms the results of table 5 and accepts **first hypothesis (H_1) too**.

2) The association between FRQ and FCs is obtained from line 2, path coefficients are 0.158 for the FC_KZ model, and 1.313 for the FC_Z Score model, this means that there is a negative and significant association between FRQ and FCs, this result confirms the results of table 6 and accepts **second hypothesis (H_2) too**.

3) The association between CG and FCs. can be discussed through the following points:
   - The direct association between CG and FCs is presented in line 3, path coefficient is -0.258 for the FC_KZ model and -0.095 for FC_Z Score, this means that there is a direct, negative, and significant effect of CG on FCs, this result confirms the results of table 6.
   - The indirect association between CG and FCs is presented in line 4, the path coefficient is -0.015 for the FC_KZ model and -0.125 for FC_Z Score, so the **third hypothesis (H_3) is accepted**.

4. Discussion:

The main objective of this paper is to investigate the effect of both Corporate Governance (CG) and Financial Reporting Quality (FRQ) on Financial Constraints (FCs) to find chances to control a firm's financing opportunities. This objective is divided into four sub-objectives; First: investigating the effect of CG on FRQ, Second: investigating the effect of FRQ on FCs, Third: investigating the direct effect of CG on FCs, and Fourth: concerns with the indirect association between the last two variables through FRQ as a mediator.

Regarding the first sub-objective, tables 5 and 8 indicate firms that have good CG mechanisms confirm management's credibility and control management decisions which gives better chances to enhance financial reports transparency, accuracy, and trustee. So, the faithful representation of financial reports. In other words, having efficient CG mechanisms can create a suitable atmosphere to prepare financial reports with high quality.

For the second sub-objective, tables 6 and 8 indicate management who needs lower its FCs to get more external finance by issuing stocks using SEOs, IPOs or new bonds is interested in enhancing its image against related parties to effect on these decisions, especially if it does not have a convinced financial performance, uses accruals to manipulate reported

earnings. Management uses this manipulation to send a message to outsiders that firm performance is good and the investments in firm; either shares or bonds, are profitable and feasible.

For the third sub-objective, tables 6 and 8 indicate management that aims to extend its firm's external finance concerns with enhancing CG mechanisms before proceeding with external finance. Since firms that have good CG mechanisms confirm management's credibility and control management decisions that reduce information asymmetry between management and related parties, so reduce agency problem. So, enhancing CG mechanisms gives a good image about firm performance to outsiders related parties to encourage them provide enough fund that managements want. Since, these outsiders related parts trust firm performance and profitability.

For the fourth sub-objective, table 8 indicates management uses the integration between having good CG mechanisms and FRQ to minimize FCs. In other words, management uses CG mechanisms to control FRQ which leads to maximizing the firm's opportunities to get more external finance. Since, firms that have good CG mechanisms have a better FRQ which is affected on increasing their external finance, due to outsiders trust in firm performance and reports.

Finally, this paper gets the result that the firm must concentrate on enhancing its CG mechanisms and improving its

FRQ to have a better chance to get more funds or reduce FCs. Since the integration between enhancing CG mechanisms and improving FRQ has a higher effect to get external finance offers than each determinant alone. In other words, if a firm wants to get more financing chances and reduces its FCs, must enhance its CG mechanisms, and improve its FRQ.

5. Conclusion:

Many literature reviews are interested in finding a way to reduce Financial Constraints (FCs) or increase opportunities to get more finance, this happened by investigating FCs determinants. Since, this paper is interested in investigating it by concentrating on the mediation effect of financial reporting quality (FRQ) on the association between Corporate Governance (CG) and FCs, in Egyptian-listed non-financial firms.

For available data of 133 listed firms in EGX 100 from 2016 to 2021 which includes 798 completed observations. The findings indicate that (1) firms that have good CG mechanisms confirm management's credibility and control management decisions which creates a suitable atmosphere to prepare financial reports with high quality. (2) management who needs lower its FCs to get more external fund do more manipulation practices outputs of accounting information, which means reducing FRQ, to increase related parties trust in firm. (3) management depends on having good CG mechanisms to send a

message to related parties that information asymmetry at lowest levels, which encourages them to put more investments in its firm, which means reducing FCs. (4) management uses CG mechanisms to control FRQ which leads to maximizing the firm's opportunities to get more external finance.

The paper introduces three contributions, as follows; (1) Interesting in CG mechanisms improves FRQ and enhances financing opportunities. (2) Concerning preparing financial reports with high quality enhances financing opportunities. (3) The integration between CG and FRQ gives more chances to reduce FCs than each determinant can do.

References

Abdulrahman, A. (2020). ***Board Characteristics, Audit Committee Dynamics and Financial Reporting Quality of Listed Deposit Money Banks in Nigeria***, Unpublished Ph.D. Dissertation, University of Kwara State, Nigeria

Abernathy, J.; Beyer, B. and Rapley, E. (2014). Earnings Management Constraints and Classification Shifting. ***Journal of Business Finance and Accounting***, 41(5), 600-626.

Alateen, B. (2017). Does Corporate Governance Influence Earnings Management in listed Companies in Bahrain Bourse? ***Journal of Asia Business Studies***, 12(4), 551-570.

Almasarwah, A.; Alrawabdeh, W.; Masadeh, W. and Al-Nimer, M. (2022). Corporate Governance: Association the Spots between Institutional

Enhancement, Organisational Modification and Earnings Quality, ***Journal of Financial Regulation and Compliance***, 30 (2), 240-262.

Almeida, H.; Campello, M. and Weisbach, M. S. (2004). The Cash Flow Sensitivity of Cash. ***The Journal of Finance***, 59(4),1777–1804.

Altman, E.I. (1968). Financial Constraints, Discriminant Analysis and the Prediction of Corporate Bankruptcy. ***The Journal of Finance***, 23(4), 589-609.

Azeem, M.; Ahmad, N.; Majid, S.; Rehman, J and Nafees, B. (2023). Corporate Governance, Financial Costraints and Dividends Policy: Evidence from Pakistan, ***Cogent Economics and Finance***, 11, 1-29..

Ball, R. and Shivakumar, L. (2008). Earnings Quality at Initial Public Offerings. ***Journal of Accounting and Economics***, 45(2-3), 324-349.

Bayar, O; Huseynov, F., and Sardarli, S. (2018) . Corporate Governance, Tax Avoidance, and Financial Constraints. ***Financial Management***, Fall, 651-677.

Berzins, J.; Bohren, O. and Stacescu, B. (2022). ***The Family Firm Profit Premium: Governance and Financial Constraints***, 1-44.

Biddle, G.C.; Hilary, G.; Verdi, R.S. (2009). How Does Financial Reporting Quality Improve Investment Efficiency? Journal of Accounting and Economics, 48(2-3), 112-131.

Boachie, C. and Mensah, E. (2022). The Effect of Eranings Manaement on Firm Performance: The Moderating role of Corporate Governance Quality, ***International Review of Financial Analysis***, 83, 1-16.

Campello, M. & Graham, J. R. (2013). Do Stock Prices Influence Corporate Decisions? Evidence from the Technology Bubble. ***Journal of Financial Economics***, 107(1), 89-110.

Caralho, F. L; Kalatzis, A. E. G. (2018) . Earnings Quality, Investment Decisions, and Financial Constraint . ***Revista Brasileira de Gestao de Negocios***, 20(4), 573-598.

Caramanis, C. and Lennox, C. (2008). Audit Effort and Earnings Management. ***Journal of Accounting and Economics***, 45(1). 116-138.

Chang, R. D., Tseng, Y. C. and Chang, C. P., (2010). The Issuance of Convertible Bonds and Earnings Management: Evidence from Taiwan. ***Review of Accounting and Finance***, 9(1). 65-87.

Ching, K. M., Firth, M., and Rui, O. M., (2006). Earnings Management, Corporate Governance and the Market Performance of Seasoned Equity Offerings in Hong Kong. ***Journal of Contemporary Accounting and Economics***, 2(1). 73-98.

Chiu, C. (2008). ***Financial Constraints and Earnings Quality***, https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.570.9246and rep=rep1and type=pdf.

Chou, D. W., Wang, C. E., Chen, S. S. and Tsai, S., (2009). Earnings Management and the Long-Run Underperformance of Firms Following Convertible Bond Offers. ***Journal of Business Finance and Accounting***, 36(1-2). 73-98.

Chu, E.; Lai, T., and Song S. (2016). Corporate Governance and Financial Constraints in Family Controlled Firms: Evidence from Malaysia. ***International Journal of Business and Society***, 17(3), 429-446.

Chung, R., Firth, M., and Kim, J. B., (2002). Institutional Monitoring and Opportunistic Earnings Management. ***Journal of Corporate Finance***, 8(1), 29-48.

Cornett, M. M., Marcus, A. J. and Tehranian, H. (2008). Corporate Governance and Pay-for-Performance: The Impact of Earnings Management. ***Journal of Financial Economics***, 87(2), 357-373.

Ding, S; Liu, M. and Wu, Z. (2016). Financial Reporting Quality and External Debt Financing Constraints: The Case of Privately Held Firms. ***Journal of Accounting, Finance and Business Studies (ABACUS)***, 52 (3), 351-373.

Ekawarti, Y.; Adam. M.; Yusnaini, E. and Yusrianti, H. (2021). ***Systematic Literature Review: Earnings Management in Corporate Governance***. 7th Sriwijaya Economics, Accounting and Business Conference (SEABC 2021), 1-16.

Farooq, M; Humayon, A.A.; Khan, M.I. and Ali, S. (2022). Ownership Structure and Financial Constraints- Evidence from and Emerging Market, ***Managerial Finance***, 48(7), 1007-1029.

Farooq, M. and Noor, A. (2020) . The Impact of Corporate Governance on Financial Constraints: Evidence from Pakistan. ***Paradigms***, 14(1), 12- 22.

Fazzari, S.; Hubbard R.G. and Petersen B.C. (1988). ***Financing Constraints and Corporate Investment***. NBER Working Paper, National Bureau of Economic Research. 2-84.

Filatotchev, I., and Toms, S. (2006). Corporate Governance and Financial Constraints on Strategic Turnarounds. ***Journal of Management Studies***, May, 43(3), 408-433.

Ginglinger, E. and Saddour, K. (2012). ***Cash Holdings, Corporate Governance, and Financial Constraints***, 1-34. https://ssrn.com/abstract=2154575.

Hassani, M. and Akbari, M. (2016) . Examination of the Effect of Investment Inefficiency and Financial Constraints on Earnings Management. ***Management Economics and Accounting***, July, 4, 1-20.

He, D., Yang, D. C. and Guan, L.(2010). Earnings Management and the Performance of Seasoned Private Equity Placements: Evidence from Japanese Issuers. ***Managerial Auditing Journal***, 25(6). 569-590.

Hussain, A. and Akbar, M. (2022), Divedends Policy and Earnings Management: Do Agency Problem and Financing Constariants Matter?. ***Borsa Istanbul Review***, 22 (5), 839-853.

Islam, R.; Haque, Z.; Moutushi, R.H. (2022). Earnings Quality abd Financial Flexibility: A Moderating Role ofCorporate Governance, ***Cogent Buienss and Management***, 9, 1-27.

Johnson, V. E., Khurana, I. K. & Reynolds, J. K. (2002). Audit-firm Tenure and the Quality of Financial Reports. ***Contemporary Accounting Research***, 19(4), 637-660.

Jones, J. J. (1991). Earnings Management During Import Relief Investigations, ***Journal of Accounting Research***, 29(2):193-228.

Kalatzis, A.E., Pellicani, A.D., and Moccellin, J.V. (2010) . ***The Impact of Corporate Governance on Financial Constraints: Evidence from Brazilian firms***. International Conference on Applied Economics, 389-395.

Kaplan, S.N. and Zingales, I. (1997). Do Investment Cash-Flow Sensitivities Provide Useful Measures of Financing Constraints? ***Quarterly Journal of Economics***, 112(1), 169-215.

Kirana, D.J.; Wibawainsih, E.J. and Wijayanti, A. (2020) . The Role of Corporate Governance in Constraining Earning Management . ***Journal of Accounting and Finance Management***, August, 1(2),156-168.

Klai, N. & Omri, A. (2011). Corporate Governance and Financial Reporting Quality: The Case of Tunisian Firms. ***International Business Research***, 4(1), 158-166.

Kolsi, M.C. and Grassa, R. (2017) . Did Corporate Governance Mechanisms Affect Earnings Management? Further Evidence from GCC Islamic Banks. ***International Journal of Islamic and Middle Eastern Finance and Management***. April, 10(1), 2-23.

Krishnan, G.V. & Parsons, L.M. (2008). Getting to the Bottom Line: An Exploration of Gender and Earnings Quality. ***Journal of Business Ethics***, 78(1), 65-76

Lee, C, and Park, H. (2016) . Financial Constraints, Board Governance Standards, and Corporate Cash Holdings. ***Review of Financial Economics***, 28, 21-34.

Linck, J; Netter, J and Shu, T. (2013) . Can Managers Use Discretionary Accruals to Ease Financial Constraints? Evidence from Discretionary Accruals Before Investment. ***The Accounting Review***, 88(6), 2117-2143.

Miller, J. E. (2009). The Development of The Miller Ratio (MR): A Tool to Detect for The Possibility of Earnings Management (EM), ***Journal of Business and Economics Research***, 7(1) 79-90.

Obeten, O. I., Ocheri, S., and John, S. (2014). The Effect of Corporate Governance on the Performance of Commercial Banks in Nigeria. ***International Journal of Public Administration and Management Research,*** *2*(2), 219-234.

Oghonnaya, K. and Chidiebere. M. (2021). Effect of Corporate Structure and Financial Reporting Quality of Quoted Pharmaceutical Companies in Nigeria. ***Management Dynamics in the Knowledge Economy***, 9(2), 225-239.

Rahman, K. M., and Bremer, M., (2016) . Effective Corporate Governance and Financial Reporting in Japan. ***Asian Academic of Management Journal of Accounting and Finance***, *12*(1), 93–122.

Rezaee, Z. (2004). Corporate Governance Role in Financial Reporting. ***Research in Accounting Regulation***, 17, 107-149.

Rezaee, Z.; Safarzadeh, M.H. (2022). Corporate Governance and Earnings Quality: the behavioral Theory of Corporate Governance (Evidence from Iran). ***Corporate Governance***, 23 (1), 189-218.

Salin, A.S.A.P. (2017). Malaysian Private Entities Reporting Standards – Benefits and Challenges to SMEs. ***International Journal of Academic Research in Business and Social Sciences***, 7(11), 1302-1320.

Silvera, D.L.; Hizazi, A.; Hidayat, M.S.; Rahayu, S.(2022). Financial Constraints and Corporate Governance as Moderating Variables for the Determinants of Tax Avoidance. ***Investment Management and Financial Innovation***, 19(1), 274-286.

Solikhah, B.; Wahyudin, A.; Al-Faryan, M.A.; Iranda, N.N.' Hajawiyah, A. and Sun, C. (2022), Corporate Governance Mechanisms and earnings Quality: Is Firm Size A Moderation Variable? , ***Journal of Governance and Regulation***, 11(1), 200-211.

Tariverdi, Y and Keivanfar, M. (2017) . The Effect of Financial Constraints on the Relationship between Financial Reporting Quality and Investment Inefficiency. ***International Journal of Economics and Financial Issues***. 7(5), 161-168.

Uwulgde, U.; Fellx, E.D.; Uwulgde, O. R.; Teddy, O. and Irene, F. (2018) . Corporate Governance and Quality of Financial Statements: A study of Listed Nigerian Banks. ***Banks and Bank Systems***,13(3), 12-23.

Whited, T.M. and Wu, G. (2006). Financial Constraints Risks. ***The Review of Financial Studies***, 19 (2), 531-559.

Van, V.T. and Hung, D. (2022). Debt, Earnings Management and Financial Constraints: A Case Study Conducted in Vietnam, ***General Management***, 23 (186), 202-213.

Verdi, R.S. (2006). ***Financial Reporting Quality and Investment Efficiency***, Sep., 1-46. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=930922

Zhao, W; More, S. (2016). Corporate Governance, Financial Constraints, and Value of Cash Holdings: Research from the Perspective of Ultimate Controllers, ***Modern Economy***, 7(10). 1096-1119.